

IN THE CLAIMS

1. (Original) A method for injecting a liquid drug containing a biological material, comprising the step of:

A) injecting the liquid drug containing the biological material contained in an injector into a subject at a predetermined range of velocity.

2. (Original) A method according to claim 1, wherein the predetermined range of velocity maintains a biological activity of the biological material.

3. (Original) A method according to claim 1, wherein the predetermined range of velocity is less than or equal to about 20 ml/min.

4. (Original) A method according to claim 1, wherein the predetermined range of velocity is less than about 10 ml/min.

5. (Original) A method according to claim 1, wherein the predetermined range of velocity is greater than or equal to about 1 ml/min and less than about 10 ml/min.

6. (Original) A method according to claim 1, further comprising the step of:

B) accelerating the liquid drug containing the biological material at a predetermined range of acceleration to reach the predetermined range of velocity.

7. (Original) A method according to claim 6, wherein the predetermined range of acceleration maintains a biological activity of the biological material.

8. (Original) A method according to claim 6, wherein the predetermined range of acceleration is in the range of about 1 mm/sec² to about 15 mm/sec².

9. (Original) A method according to claim 1, wherein an inner diameter of a body of the injector is about 1 mm to about 30 mm.

10. (Original) A method according to claim 1, wherein an inner diameter of a tip tube of the injector is about 0.1 mm to about 1 mm.

11. (Original) A method according to claim 1, wherein the biological material comprises a material selected from the group consisting of nucleic acid molecules, polypeptides, lipids, sugar chains, small organic molecules and complexes thereof, cells, tissues, and organs.

12. (Original) A method according to claim 1, wherein the biological material is a cell, and the velocity is about 1 ml/min to about 20 ml/min.

13. (Original) A method according to claim 1, wherein the biological material is a cell, and the velocity is about 1 ml/min to about 10 ml/min.

14. (Original) A method according to claim 1, further comprising the step of:

C) decreasing a velocity of the liquid drug containing the biological material at a predetermined range of acceleration to substantially zero.

15. (Original) A method according to claim 14, wherein the absolute value of an acceleration of the decreasing velocity is in the range of about 1 mm to about 15 mm/sec².

16. (Original) A method according to claim 1, wherein the injection is carried out for treatment or prophylaxis of a heart.

17. (Original) A method for treating an organ using a liquid drug containing a biological material, comprising the step of:

A) Injecting the liquid drug containing the biological material contained in an injector into a subject at a predetermined range of velocity.

18-42. (Cancelled).